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D.C. FIRE FINALLY GOING DIGITAL?

New system could shut-out scanner listeners
by Alan Henney (alan@henney.com)

After months of delays, the cut-over to a digital 800 MHz trunked radio system for the District's fire and EMS workers may be completed by year's end, says Wendell Giggy of D.C. Fire/EMS communications. D.C. Fire Chief Ronnie Few mandated December 15 as the switch-over date. Until a digital scanning radio is available, scanner listeners will be unable to monitor the new system.

Scanner listeners will continue to hear dispatches on 154.19, but Giggy noted that as of this writing the department has no plans to simulcast other talkgroups onto the VHF channels or the Internet from the digital system. In addition, he says no plans have been made for public/media access to monitor the system.

The city's Emergency Management Agency (EMA) and some fire department staff have been using the system already for more than a year. EMA and fire/EMS each procured separate eight-channel trunked systems. They now operate as a single system with two partitions. EMA remains on its eight channels and fire/EMS will normally use its own eight 852 MHz channels but may expand into the EMA allocations if necessary, but not the other way around. EMA is in the process of assisting other city agencies, such as housing, corrections, schools and human services, in moving to the EMA portion of the trunked system.

The 800 MHz system will also support a DEK (direct-entry keypad) status messaging system for the fire/EMS apparatus. The DEK status messaging system will reduce voice traffic since fire/EMS personnel can simply press a button to notify communications when they arrive on scene, are available, responding, etc. Hospital and firehouse alerting systems will also run through the trunked system. Look for the new white fiberglass antennas about a foot tall on each firehouse.

The hub of the trunked system is the new communications center on McMillan Drive NW which is adjacent to the existing fire/EMS dispatch facility. It was supposed to have been a consolidated facility where the city's various emergency call centers were to be located. But Giggy says the city is considering building even a larger facility at an undetermined location. That facility would ideally house the police and fire/EMS call-takers and dispatchers along with call centers for other city agencies such as public works, EMA and perhaps human services.

The police may join the existing center in the next year, wait for the new proposed facility to be built, or remain on Indiana Avenue. As far as radios, the police say the department would like to upgrade its existing 460 MHz system and not move to the fire/EMS/EMA trunked system. MPD dispatchers, however, may have the ability to patch into selected talkgroups as required.

A new computer-aided dispatch (CAD) system is being installed by the Intergraph Corporation for fire/EMS dispatchers and call-takers. It's a Windows NT-based system that replaces the department's 11-year-old CAD system which runs off a McDonnell Douglas mainframe. The new CAD system is capable of sending dispatch messages to alphanumeric pagers -- similar to what Baltimore and Montgomery County fire departments already do. But Giggy said no decision has been made whether to implement this feature or not.

The fire/EMS/EMA system has transmit sites at the Capitol View Plaza Senior Center, Saint Elizabeth's Hospital, Georgetown University Medical Center, the 4th District MPD police station, and a fifth site at fire communications where the controller is located. The department, Giggy stated, is working with Metro on perfecting the system used in the subway tunnels.

A fire department official told the Washington Times that Nextel's signals interfere with the trunked system's signal and hamper efforts to complete the radio link for use in the subway tunnels. Metro's safety chief was quoted as

saying that the underground system is working but he didn't see the above-ground portion completed till May 2001 while these issues are being resolved.

The EMA portion transmits on 855.2125, 855.2375, 855.4625, 856.9875, 857.9875, 858.9875, 859.9875 and 860.9875. The fire/EMS portion transmits on 852.6125, 852.6375, 852.6625, 852.6875, 852.7125, 852.7375, 852.7625 and 852.7875. The system will support both analog and digital, but fire/EMS talkgroups are all digital.

A single analog simplex "talkaround" channel will allow communication between units operating outside of the trunked system's range -- such as in basements, tunnels or other sub-terrain locations, or those that travel beyond the area.

The current plans have fire/EMS radios programmed with 11 zones. The first five zones will be for D.C. fire/EMS, followed by the 800 MHz national and COG channels, then zones for Virginia jurisdictions, Arlington, Alexandria, MWAA (airports) and two for Fairfax County. The Virginia zones will be grouped and numbered in the same sequence as they will appear in radios belonging to northern Virginia fire departments. The northern Virginia departments have agreed upon this standardized zone and talkgroup plan.

Talkgroups for Fairfax County fire/EMS, for example, will always be Virginia zone 4 regardless of the participating jurisdiction's radio; this also corresponds to the first digit of the three-digit apparatus designations now in use by northern Virginia fire departments. D.C. fire/EMS has been dubbed "zone 0" (zone zero).

The District will have about 55 digital fire/EMS talkgroups. A bi-directional patch will relay messages between 154.19 and the trunked system's fire/EMS dispatch talkgroup. Once dispatched, units will switch to a working talkgroup (no longer will initial size-ups, layout instructions, returns and requests for additional apparatus be given on the dispatch channel).

The department's training guide states that the "main" talkgroup will be used for one/two-unit responses to fire calls. "Main" will also be used to relay administrative messages to fire communications, such as out of service for fuel, or out of the area to battalion headquarters. Apparatus responding to auto accidents will operate on one of four EMS talkgroups.

"Box alarms" and other calls where a battalion fire chief is dispatched will be assigned to one of four sets of fire ground talkgroups. Each set consists of three tactical talkgroups and an announcement talkgroup. The incident commander can separate units to any of the three talkgroups for more effective communication. The incident commander can use the fourth talkgroup, called an announcement talkgroup (ATG), to simultaneously transmit orders across all four talkgroups.

The fire mutual aid channels will be available for patching into the system (two talkgroups have been designated for patch use). Also, Giggy says a patch will enable direct communication with Naval District Washington firefighters. Encryption is planned for talkgroups use by investigators, the fire chief, department command staff, division heads, and on a liaison channel with city executive staff.

The department purchased Motorola XTS3000 Model II portable radios and the Spectra with W9 remote-mount control heads for mobile use. The DEK status message encoders will function through the Spectras.

FAIRFAX CLOSE TO COMPLETING DIGITAL SWITCHOVER

Fairfax County's digital Motorola trunked radio system is fully operational. The primary police and fire/EMS conventional channels are patched to their digital counterparts. The sheriff has also migrated to the new system and most of the police and fire/EMS users are expected to make the switch during November.

The police department's transition to the trunked system starts with channels 1, 6 and 7. Each police station will simulcast until the switch-over is complete, then the patch

will come down, and the old conventional police channel will be added into the trunked system.

Fire/EMS channels 1 through 6 will remain patched with trunked talkgroups 4A through 4F for a few months until radio installation in apparatus is complete. Fire/EMS units available for service will continue to monitor the dispatch channel (talkgroup 4A) for calls. But once a unit is dispatched, it will always be moved to a talkgroup for incident communication.

The response talkgroup (talkgroup 4B) is patched with 460.6 and will be used for responses to medical calls, odors, alarm bells, etc. Calls where a battalion chief is dispatched will be assigned to one of several "incident" talkgroups. Once the cut-over is complete, the fire/EMS talkgroups may be assigned without regard to geographical location of the call -- with the exception of "Incident 11" which will be used along the Alexandria city line.

Zone 9 in the Fairfax radios will have 15 talkgroups for use with hospitals. No longer will medical facilities communicate directly with or monitor units on a fireground channel. A hospital common "trauma" talkgroup will allow multiple receiving hospitals to coordinate with EMS units.

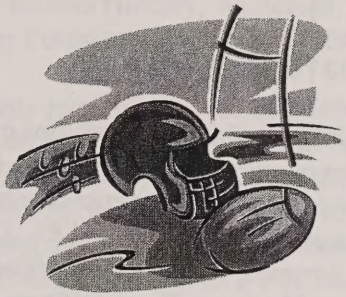
The airports authority and Alexandria fire departments already have digital radios with Fairfax County talkgroups programmed. Arlington County will continue to use analog talkgroups on its system that are linked with Fairfax County until Arlington County upgrades to digital radios. Mutual aid with Prince William County will be accomplished by patching a trunked system talkgroup with a VHF FMARS channel.

The system ultimately will consist of 20 channels, including the existing eight police channels (853.1875, 853.3375, 853.4875, 853.6375, 853.7875, 853.9625, 854.1375 and 854.2875). The designated control channels are 857.2625, 858.2625, 859.2625 and 860.2625. The remaining eight channels are: 852.9625, 853.4625, 853.9125, 854.2625, 854.4625, 855.9625, 855.9875 and 856.2625

The system supports analog talkgroups as well. TrunkTracker ID 00176 is an analog simulcast of the fire/EMS dispatch (460.575). But it may not be permanent. 00048 is an analog talkgroup used by the trunked system project team. ID 00144 is an analog simulcast of the Fairfax Hospital talkgroup.

The system's eight sites are licensed under KNIH412 and WNAJ365. Transmit sites are as follows: Great Falls (firehouse), Merrifield (WNVC's tower), Reston International Center, West Ox (fire training academy), Butts Corners (PAX TV), Springfield (Washington Gas), Hybla Valley (Mega Broadcasting), and Lorton (behind Youth Center I).

Special thanks to Major Lee Williams for providing some of this information.



SCANNING FEDEX FIELD

The Redskins have occupied their stadium in Landover, Md for a little more than three years now. During that time, the 80,116-seat stadium has gone through three names. The stadium cost Jack Kent Cooke $180 million, and Maryland taxpayers $70 million to build the surrounding infrastructure. It became the NFL's largest open-air stadium (only the Silverdome in Pontiac, Mich. held more) and represented a giant leap from RFK Stadium, whose 56,454-seat capacity was the league's smallest.

FedEx Field was built in 18 months and was painted with 52,000 gallons of paint. The stadium features real grass, seats with perfect views, sharp scoreboards, 23,000 parking spaces, 2,527 plumbing fixtures, 12 miles of handrails, 1,100 televisions, a sound system, and 199 luxury boxes.

The Redskins have sold out more than 200 consecutive games and some 40,000 fans remain on the waiting list for season tickets. But don't let that discourage you from scanning the action from outside the stadium.

FedEx Field Frequencies

461.0750 r [047] Engineering/Maintenance
461.1000 r [546]
461.1500 r [116] Ch. 12 Parking
461.7625 s [047] Parking

461.9500 r	[071]	Stadium Staff
462.8125 s	[205]	Parking
463.2375 s	[054]	
463.3125 s	[172]	Redskins QB Headset (voice inversion)
463.8000 r	[072]	Ushers/Elevator Towers
463.9250 r	[503]	
463.9500 r	[ ]	
464.1000 r	[114]	Ushers/Housekeeping/VIP Parking
464.8000 r	[065]	Ch. 1 Snyder/Stadium Management
464.8500 r	[054]	Ch. 4 Security
464.9000 r	[ ]	
462.9125 r	[346]	Electricians
464.9500	[413]	Lighting

On 464.8 you could possibly hear Redskins owner Daniel M. Snyder or one of his staff provide instruction to stadium workers. Security guards patrol the stadium at all times and operate on 464.85. During football games, however, county police officers patrol inside and outside the stadium. Officers outside communicate with the command post on channel 6 (494.8875), while officers assigned to the interior use channel 8 (494.7375). Also keep an ear on channel 7 (494.9375) and the 500 MHz surveillance channels (try 500.05, 500.15, 500.25 as well as searching between 500.0 and 501.0 MHz).

Fire and EMS units normally stay on channel 4/6 (495.0625). But also try channel 3/5 (494.7875). Selected fire department radios have their own unlicensed frequencies, these are channels 8-B through 12-B: 500.1, 500.2, 500.3, 500.4 and 500.5.

Last September the National Football League licensed these eight frequencies at each NFL stadium for 2 watts of power: 451.6625, 451.7125, 452.0375, 452.1125, 452.3625, 452.4625, 452.6625 and 453.0125. The license (call sign WPPA283) for these frequencies is useful because it provides the city, county and coordinates for each of the league's stadiums.

Getting to the stadium and parking can be a challenge. Keep an ear on MSP 39.3, SHA (47.32, 47.2), Metro Transit (161.385, 496.5875, 496.6125), and Metro Traffic Control (455.9125).

The stadium's command center resembles a miniature EOC. The county police and fire departments each have a console and share a direct line to the county's communications center. A remote CAD terminal is being installed. Also in the command center is a console for the state police, state highways and a dispatch console for stadium security. The stadium security guards oversee an extensive video monitoring system -- with cameras that can pan right and left, and tilt up and down. They are in the stadium, and on the outside covering the parking areas.

The helicopter up during the games is not the county's, but a rental (at least so far). The helicopter normally uses police channel 6 and its main function is traffic observation. For now the SOD officer in the helicopter identifies using his regular radio designation (generally it's "Time 1").

Don't forget the FRS channels (462.5625-462.7125 and 467.5625-467.7125) used by people coming to the game. When you're at the top of the stadium the coverage is remarkable. Also, the network TV and radio crews often use various channels in the 450-451, 455-456 and 161.64-161.76 bands.

HOWARD COUNTY'S PROPOSED TRUNKED SYSTEM

Howard County's digital trunked radio system is in the design phase. The county has fifteen 866-869 MHz and ten 856-861 MHz channels reserved for its use (see below). The proposed system, which will likely have eight towers, is designed to use existing government sites whenever possible. But three replacement towers of increased height will be necessary. These include the Jonestown (Howard High School), Alpha Ridge near Interstate 70, and the Dayton public works yard off Route 32. Legislation was introduced in June with the county council seeking a variance to reduce set-back requirements for these three sites.

Existing towers that will not require height modifications are planned for use in Cooksville, at the Timbers of Troy golf course in Elkridge, and on Penn Shop Road at Route 97. Two, new, self-supporting towers will also be necessary. Plans call for one to be located at the county's water reclamation plant in Savage near U.S. 1, and a second at the government office complex in Ellicott City, where the computer "brain" will reside which is connected by wire to the county's 9-1-1 center. A ninth site may use sit atop an office building in west Columbia.

Motorola has received approval to proceed with the county's second purchase order. The tentative project schedule calls for a factory demo of the county's system at Motorola's Schaumburg, Ill., plant in June 2001. The system would be installed starting in September 2001. Coverage testing and user training would begin in April and continue through September 2002. Installation of mobile radios would run from July 2002 through February 2003. Beneficial use of the system in slatted for March 2003 with final acceptance in May 2003.

The system will have analog capability. Radios planned for use by fire/EMS workers are the Motorola XTS3000-R (ruggedized firefighter version) and Astro Spectras for mobile use. Alerting will continue on the existing fire radios and pagers but will simulcast onto the trunked system. Cost estimates are approximately $27 million.

These 10 channels were originally licensed to the D.C. government: 856.2375, 856.7375, 857.2375, 857.7375, 858.2375, 858.7375, 859.2375, 859.7375, 860.2375 and 860.7375. Howard County contested the District's license because they were inactive. The District compromised and split its 18 channels and gave these 10 to Howard County.

Because of coordination difficulties, Howard County had trouble re-licensing the same channels farther northeast of Washington, D.C. To be on the safe side, Howard County also reserved these 866-869 MHz channels. They may change as coordination efforts continue: 866.0375, 866.0625, 866.3875, 866.5375, 866.575, 866.6875, 866.7625, 866.9625, 866.9875, 867.1125, 867.6375, 867.8, 868.0375 and 868.0625.

HARFORD COUNTY CONSIDERS TRUNKED SYSTEM

Harford County awarded a $117,950 contract to RCC Consultants (http://www.rcc.com) to develop a plan to combine the county's existing 460 MHz radio system with a new 800 MHz system. The existing sheriff and fire/EMS radio system, installed in 1983-84, consists of a 2.1 GHz microwave backbone network that links six towers with the emergency operations center (EOC). The six sites include Hickory, Whiteford, Madonna, Joppa, Stoney Forest and Lapidum.

Harford County requested fifteen 866-869 MHz channels but has only been allocated nine so far. They are: 866.25, 866.2875, 866.775, 867.2875, 867.3625, 867.7875, 868.375, 868.775 and 868.8125. In its request for consultant proposals, the county says it has "programmed monies [sic] in its FY01 budget for the replacement of the backbone radio system. The county will fund subsequent field radio replacement in a future fiscal year, consistent with the recommendations of the consultant." The RFP also goes on to note that the state has initiated an 800 MHz radio task force to consider eventual partnering with the counties to share backbones, towers and other facilities in a true interoperable statewide system.

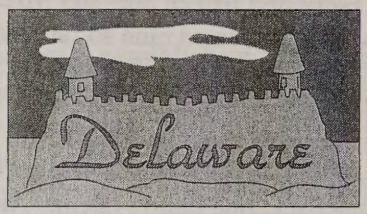
Many thanks to Lewis C. McCannon, Jr. for providing these details.

HIGH-TECH MDCs FOR P.G.P.D

Installation of mobile data computers (MDCs) in Prince George's County police patrol cars began in June and will continue through April. When the county's MDC information system (MDCIS) is complete, it promises to make the county the only jurisdiction with: computer-

assisted dispatch, car-to-car and dispatcher messaging, dial-up hook-up to D.C. police, look-ups for persons, wants, warrants, tags, articles; magnetic stripe readers (for Maryland driver's licenses), mobile report writing, record management queries, and a paper-less report environment.

The patrol cars with the MDCs are easy to spot! The MDC antennas are flat, about the size of a tea saucer, and black. It is a cellular packet-based system. Ocean City uses a similar system sold by the same company (Datalux). See: http://www.datalux.com/oceancity.html



DELAWARE SIMULCASTS GO INTERNET

The Delaware State Police, in conjunction with DelDOT and the Delaware Office of Information Services, have begun to re-broadcast DSP's 800 MHz dispatch ("command and control") talkgroups over the internet. Scott A. Quillen of DSP's Information Support Services says this will allow monitoring of the "main" radio channels for DSP (and tenant municipal agencies in Kent and Sussex) from anywhere in the world (with an internet connection). The patches to the old 154 MHz channels will be terminated. Sussex and New Castle counties are considering similar Internet simulcasts for county-controlled talkgroups.

You can access this Web page from DSP's home page at http://www.state.de.us/dsp, or from the Emergency Services page on the state's home page. http://www.state.de.us/emergenc.htm

SCANNING RICHMOND AREA FIRE

Keith Victor sends along some fire frequencies from his recent trip to the Richmond area. Unfortunately, many of the jurisdictions have switched to trunked systems, but several fire simulcasts exist.

154.160 [CSQ]	Chesterfield Co Disp
154.370 [210.7]	Wagstaff Circle Fire
155.175 [88.5]	Lakeside Res Sq/Henrico Co Trunked Disp
155.235 [107.2]	Tuckahoe Res Sq/Henrico Co Trunked Disp
155.265 [203.5]	Chesterfield Co Disp/Res Sq
158.760 [CSQ]	Hanover Co dispatch
166.950 [127.3]	Richmond National Battlefield Park
453.650 [67.0]	Richmond Fire secondary
453.750 [67.0]	Richmond Fire primary
453.975 [67.0]	Richmond Fire/EMS
460.625 [114.8]	Richmond PD Detectives

Henrico County has an 800 MHz digital system. Richmond police use a CTCSS of 103.5 on all of the department's 460 MHz channels, with the exception of 460.625 (traditionally a fire channel) which is used by the detectives. Its CTCSS is 114.8. Hanover County fire no longer uses any of the old VHF channels except for 154.295 (mutual aid).

NEWSSCAN

FAUQUIER COUNTY PONDERS RADIO OPTIONS. After receiving quotes from Motorola and Com-Net Ericsson for an 800 MHz trunked radio system, the Fauquier County supervisors are considering the additional cost of issuing a request for proposal for a 150 MHz radio system. Advocates of the 150 MHz system, states the Oct. 4 *Fauquier Times-Democrat,* argued that it would cost half of the projected $8 million price tag for the 800 MHz system.

The license (WPRH249) for a proposed VHF system was issued to the county on Sept. 20. It tentatively calls for antenna sites in Kenny Woods, Bealeton and two in Warrenton. Licensed repeater output channels are: 151.0475, 151.1225, 151.1525, 154.025, 154.755, 155.025 and 155.3175. These additional channels are licensed for mobile or input: 151.13, 151.2125, 153.7625, 153.8375, 153.8675, 153.9275, 153.9425, 153.9575, 154.1, 156.075, 158.8875 and 158.9025.

The *Fauquier Times-Democrat* reported that the county's consultant (CTA) had initially quoted a $400,000-plus bill to conduct an RFP for the 150 MHz system -- giving supervisors the impression the consultant was trying to discourage evaluation of the alternative system.

In defense of the consultant, one of the county's supervisors stated the consultant was looking at a conventional 150 MHz system that would evolve into a 150 MHz trunked system in two years, and then after another two years, a trunked and simulcast system. But to write an RFP for a trunked and simulcast 150 MHz system, CTA had supposedly quoted a price of $89,000 -- about $30,000 more than what CTA is billing the county for the 800 MHz system RFP.

Frequencies tentatively assigned to Fauquier County for the 800 MHz system are: 866.2, 866.225, 866.6375, 866.9, 866.9375, 867.2125, 867.4375, 867.625, 867.7, 867.85, 867.925, 868.05, 868.2, 868.2875, 868.45 and 868.7.

MONTGOMERY COUNTY SIGNS PUBLIC SAFETY 2000 CONTRACT. Montgomery County signed a deal with TRW -- the main contractor for the county's proposed trunked and mobile data projects dubbed "Public Safety 2000." The mobile data system component includes in-vehicle access to local, state and national law enforcement databases, as well as access to a new computer-aided dispatch (CAD) system, mapping and automated vehicle location (AVL), and a new automated records management system (RMS) featuring in-vehicle field reporting. The county says the system is expected to be totally operational by July 2002.

Among the many capabilities of the system are the ability to access street directions to an incident, receive a record of previous emergency incidents at the address, and obtain a listing of any hazardous materials located on the premises. Police officers can obtain information on criminal and motor vehicle databases such as the Maryland Interagency Law Enforcement System (MILES) and the National Law Enforcement Telecommunications System (NLETS). The new system will give personnel the ability to complete and file reports electronically in the field.

The county's trunked radio system is also included as a part of the Public Safety 2000 initiative. According to the press release, "The current radio system is 30 years old, and it no longer meets the county's coverage or capacity requirements. In recent years, problems with the aging radio system include channel overcrowding and 'dead spots' for police officers, deputies, firefighters and emergency medical personnel who must respond to emergency calls for service."

The September press release promises that the county's 800 MHz Motorola digital voice radio system will be fully operational within the next 18 months, offering municipalities and county agencies the option of working together when the situation arises, while maintaining autonomous dispatch operations. The new system is also supposed to penetrate buildings better, enabling public safety personnel to communicate efficiently from inside large structures.

As part of the Public Safety 2000 project the county leased a 54,000 sq. ft. building to house the new Emergency Communications Center (ECC) for the police and fire dispatch centers. This facility is on the corner of Quince Orchard Boulevard and Quince Orchard Road. For more info see: http://www.co.mo.md.us/news/press/00-329.html

PUBLIC SAFETY RADIO WOES. Many police and fire agencies across the country are using antiquated equipment developed in the 1950s and '60s that have failed in major emergencies, reports the Nov. 7 *Los Angeles Times*. The problem is prompting departments to spend millions on high-tech radio networks, only to encounter many new and sometimes dangerous breakdowns. The article cites several examples from across the country where high-tech public safety communications systems failed during critical moments.

The high-tech radio systems have a difficult time penetrating the increasing number of heavy steel and concrete buildings. Local governments simply don't have the money to match the kind of coverage offered by wireless telephone providers. As local governments migrated to higher, less crowded frequencies, the limitations with these frequencies have become apparent. The biggest complaint is that the radios don't always work in many big structures and throughout entire patrol areas.

A consultant told the *Times* that the older 400 MHz frequencies have a longer wavelength that travels better over hills and around buildings. The 400 MHz band travels twice as far as the newer 800 MHz systems operating at the same power levels. The new 800 MHz frequencies feature a shorter wavelength and deliver a clearer signal. But some agencies complain the signal has difficulty penetrating buildings. Public safety agencies are often forced to add expensive radio towers that higher frequencies require to match the same range of-

fered by the older 400 MHz systems. Additionally, the 800 MHz systems are vulnerable to interference from wireless phone transmissions.

NEW PGPD HELICOPTERS. Prince George's County has become the latest jurisdiction to add helicopters to its law enforcement arsenal. The county's aviation unit, reports the Oct. 5 *Prince George's Journal*, took more than three years to create -- a feat accomplished without adding officers to the force. The department purchased two 520N light turbine helicopters from MD Helicopter Inc. They can seat four and are enhanced with search lights and thermal-imaging video equipment. The helicopters are white with a blue stripe and the PGPD logo on the side. They are distinctive because they lack a tail rotor.

Each helicopter cost about $600,000. The remaining money of the $2 million Justice Department grant was used to acquire the special equipment and fund training for aviation personnel.

The tail numbers for the helicopters are N520PG and N911PG. They identify as "Air 1" and "Air 2" on the county radio channels and are based at Hyde Field in Clinton. Either could be "Air 1," as the first helicopter that's airborne uses that designation. On the aircraft frequencies they use "County 1" and "County 2" for identification. They supposedly have conventional and trunked radios for communication with adjacent jurisdictions. Staff from the unit identify as units in the Time-90 series. For details on the MD-520N, see http://www.mdhelicopters.com/

NEXTEL IN SCHOOLS? Walter Johnson High School in Bethesda has been the site of a pilot project, sponsored by Nextel, to test whether communication via cell phones can improve schools. About 70 school staff members, says the Oct. 5 Washington Post are equipped with the phones. The Nextel phones offer staff mobility, range and other features such as two-way paging, voice mail and a vibrating signal that keeps them from becoming intrusive. Nextel distributed the phones last January but took them back at the end of the school year. A Nextel spokeswoman said the school will have to buy them if it wants to keep them. The school's principal said he'd consider that "if there were sufficient resources.... It's certainly more useful than the hand-held walkie talkies schools have invested in for years."

NEW BUS TECHNOLOGY. A new technology could take the guesswork out of bus riding. Manufactured by California-based NextBus Information Systems, the Oct. 8 *Washington Post* says it uses satellites to track buses as they move in traffic and then transmits the information to an electronic sign at the bus stop that tells riders how long until the next two buses arrive. Should a bus break down or be in an accident, that information can be flashed onto the NextBus screen at the affected bus stops.

Arlington is negotiating with NextBus and Metro to install the system as a pilot program along the Metrobus 38B line, which runs between the county and the District. It would be an 18-month $65,000 pilot project and is waiting for Metro's approval. NextBus first arrived on the East Coast as part of a three-month pilot program for bus lines that link the Delaware resort communities of Rehoboth Beach and Dewey Beach this past summer. Officials there called it a success.

NextBus installs GPS receivers on the buses to track their movements on the streets. That information is sent to a central computer which examines the position of the buses, their routes and normal traffic patterns, and predicts an arrival time at the next stop. The arrival time is transmitted to a display sign at the bus stop and is continually updated. NextBus can also make real-time bus information available via cellular telephones, hand-held computers and on the Internet, so bus riders can check on their buses before leaving their offices or homes.

AIRCRAFT BAND RUNNING OUT OF SPECTRUM. The radio airwaves that pilots and air traffic controllers use to communicate are nearly filled to capacity, threatening the ability of the aviation system to expand to meet growing demand for air travel. The lack of radio frequencies, reports the front-page of the Nov. 13 *Washington Post*, is quickly becoming as important a factor in aviation congestion as the lack of runways and limited airspace.

Complicating the situation is a dispute between the FAA and the airline industry over how to solve the problem. The airlines argue that time is running out and

are pushing for a system now being used in Europe, which could be in place in five years but would probably be outdated in less than 20 years.

One of the short-term "fixes" under consideration by the FAA is to convert some navigation channels from a form of Morse code to voice transmissions. The universal emergency channel (121.5) has a "guard band" of six unused channels around it, and perhaps two or four of them could be activated. Some of the possible fixes identified would require changing and juggling frequencies across wide areas.

Airlines and various aviation groups demanded that the FAA adopt a shorter-term analog plan that would split the frequencies again. This plan is widely known as the "8.33 plan" because it splits each frequency into 12 channels, leaving 8.33 KHz between each channel. Using current technology, channels placed that close together on the spectrum would interfere with each other. But radio technology has now been developed to mitigate such interference.

Drawbacks to the 8.33 plan include the fact that it would be capable of only voice transmission, not data. It also would solve the problem for less than two decades. The advantage of the 8.33 plan is that the Europeans have already proved it will work because it is widely used there now. Because any airliner that flies to Europe must be equipped with an 8.33-capable radio, hundreds of U.S. airliners are already equipped with them.

EMERGENCY BEACONS CHANGING FREQS. Emergency Position Indicating Radio Beacons, better known as EPIRBs, are small transmitters often carried onboard aircraft and boats, and can be manually or automatically activated in an emergency to transmit a homing signal on one of the common distress frequencies. The most common transmits on 121.5 MHz, the civilian aircraft distress frequency. But, the Oct. 11 *Seattle Post-Intelligencer* reports that a tentative date of 2008 has been set to discontinue the 121.5 MHz EPIRBs in favor of those that transmit on 406 MHz. The 406 MHz units allow for encoded information, including a beacon ID, a user reference database and GPS-assisted locating.

Eventually the signal transmitted from 121.5 MHz EPIRBs will no longer be acknowledged by the COSPAS-SARSAT program, the primary international beacon tracking system. COSPAS-SARSAT started as a joint Canadian/Soviet venture that gained support from the United States and France. COSPAS is the Russian acronym for "the search for vessels in distress" and is the English equivalent of SARSAT, "search and rescue satellite aided tracking." After six years of successful rescues, the four founding countries signed the Paris Agreement in 1988. Currently, 28 countries participate in the international COSPAS-SARSAT program.

MOTOROLA DEMANDS DEALER CUSTOMER LISTS. Motorola has told its independent dealers that they must turn over their proprietary customer data or lose the right to sell Motorola radios. Some dealers, says the Oct. 8 *Inter@ctive Week,* express concern that if they give up this information, there's nothing to prevent the Schaumburg, Ill., manufacturer from using the Internet to cut the dealers out of the loop.

Radius dealers are contractually obligated to participate and the company has threatened to perform "random audits" of the data received to make sure that it has an "80 percent match rate or better." Participation in the program is, Motorola emphasizes, "mandatory."

Motorola internal documents claim that the program will only help dealers to better understand their customers. To that end, it says, information collected by Radius dealers is sent to Dun & Bradstreet for "matching" with existing information about the customer already contained in Dun & Bradstreet's business database. A unique "DUNS" number is assigned to each customer, and a business record with "up to 150 data items" is appended to the original customer information, which is then returned to Motorola. In turn, Motorola said, it shares that expanded customer profile with its Radius dealers.

BOARD SAYS 'NO' TO PUBLIC ACCESS. An Oct. 26 decision by representatives of the Alachua County, Florida main police and firefighting agencies denies the media and the public access to a new digital communications system that cannot be received by commercial scanners. The 5-1 decision, reported by the Oct. 27 *Gainesville Sun*, was made by the Radio Management Board. The board was created under a government contract between Alachua County and Gainesville, the system's two primary users.

Among the agencies opposed to media access were Gainesville Fire Rescue and Alachua County Fire Rescue. They claimed the public could get confidential medical information if access were granted. The Alachua County fire chief said the new system puts fire agencies with ambulances in a bind. They've purchased a system only they control, and it's unlawful for them to give the public the means of accessing potentially confidential medical information (no mention was made of limiting access by encrypting or excluding medical talkgroups in public/media radios). Gainesville Police and the Alachua County Sheriff's Office both said they believe the media should be able to continue to monitor police and fire activities.

SCOTLAND YARD FOILS DIAMOND HEIST. It's something loyal scanner listeners dread to hear: The tale of criminals using scanners especially during the commission of a high-profile crime. The crooks dressed as a building maintenance crew and climbed into a mud-spattered bulldozer. Their ambitious goal, stated the *London Daily Telegraph*, was to smash their way into the Millennium Dome in Greenwich, England and steal the Dome diamonds. Together with 11 huge blue diamonds, also owned by the De Beers Company, it makes up a $500 million collection, second only in value to the British crown jewels.

The men planned to steal the diamonds, flee across the Thames River in an awaiting speedboat and meet their getaway man who was monitoring police frequencies on a scanner. What the crooks didn't know was that a man from De Beer's, the company that loaned the diamonds, had switched the priceless stones for almost worthless crystal copies. Police had also gotten word of the planned heist, and had been in position for days. Police feared that if they tried merely to scare off the gang, those same criminals would simply move on to another target.

After smashing their way into the complex, the masked robbers donned gas masks, sprayed ammonia around the room and started to hack away at the reinforced glass casing using nail-guns, sledgehammers and power drills. They managed to break through but at that moment, with the pseudo-gems almost in their hands, police sprang the trap. The four were captured, along with the two waiting getaway men. The getaway driver was wearing a hard hat, and the gang had dug a hole in the side of the road and placed barriers around it, to make it look like he was genuinely involved in road repairs. When a dozen armed officers moved in and arrested him, the Nov. 8 *Montreal Gazette* reported, he was fiddling with a radio scanner, monitoring police radio traffic.

Eric Carlson, Ray Chin, Lewis C. McCannon, Jr., Dave Statter and Spencer Stevenson contributed to this issue's NewsScan.

Please address all correspondence to Alan. We encourage readers to submit material and write articles that relate to the hobby. All submissions are subject to editing for style and content. When submitting material please make certain we can contact you should we have any questions. We welcome frequency and visitor requests, but please include a reply envelope.

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The Capitol Hill Monitor is the non-profit newsletter of the *Capitol Hill Monitors*. The newsletter keeps scanner enthusiasts abreast of local meetings, frequency profiles and other topics of interest. Dues are $10 and include 12 issues (back issues cost $1 each). Kindly make checks payable to Alan Henney. Membership will be prorated accordingly in the event of a postage increase.

Join Local Scanner Enthusiasts On-Line!
We encourage computer users to take part in discussions on Frank Carson's Open Channel computer BBS (301-203-8478) or subscribe to the Scan-DC listserv by sending an e-mail to majordomo@qth.net with the words "subscribe scan-dc" (no quotes) as the message.

D.C. Dept. of Fire & EMS Talkgroup Plan (zone shown by column)

DC-0	DC-A	DC-B	DC-C	DC-H	G	1-Arl Co	2-Alex	3-MWAA	4-Ffx Co	MI-Ffx Co
1 Disp	Disp	Disp	Disp	Hosp 01	NP Call	A-Disp	A-Disp	A-F1 Disp	A-Disp	Cmd
2 Main	Main	Main	Main	Hosp 02	NP Tac 1	B-Ops	B-Ops 2	B-F2 Disp	B-Resp	Supp
3 F Gnd 1	F Gnd 8	Radio	Patch 1	Hosp 03	NP Tac 2	C-Ops	C-Ops 3	C-Tac 1	C-Inc 1	EMS
4 F Gnd 2	F Gnd 9	Train 1	Patch 2	Hosp 04	NP Tac 3	D-Ops	D-Ops 4	D-Tac 2	D-Inc 2	Stage
5 F Gnd 3	F Gnd 10	Train 2	FMD	Hosp 05	NP Tac 4	E-Ops	E-Ops 5	E-Tac 3	E-Inc 3	Sect 1
6 G1C	G3C	Insp	PPM	Hosp 06	COG 1	F-Sp Ops	F-Ops 6	F-Dyn Rgp	F-Inc 4	Sect 2
7 F Gnd 5	F Gnd 11	Special 1	EMA 1	Hosp 07	COG 2	G-Call	G-Ops 7	Empty	G-Inc 5	Sect 3
8 F Gnd 6	F Gnd 12	Special 2	EMA 2	Hosp 08	COG 3	H-Admin	H-Ax Hosp	Empty	H-Inc 6	Sect 4
9 F Gnd 7	F Gnd 13	Special 3	Empty	Hosp 09	COG 4	I-F Prev	I-Cmd 9	Empty	I-Inc 7	Sect 5
10 G2C	G4C	City Cord	Empty	Hosp 10	COG 5	J-Sp Evt	J-CE 10	Empty	J-Inc 8	Sect 6
11 EMS 1	EMS 1	Sp Ops	Empty	Hosp 11	COG 6	K-MMST	K-CE 11	Empty	K-Inc 9	Rehab
12 EMS 2	EMS 2	Spare 1	Spare 1	Hosp 12	Empty	L-Al Hosp	L-WA	Empty	L-Inc 10	Hazmat 1
13 EMS 3	EMS 3	Spare 2	Spare 2	Hosp 13	Empty	M-F Metro	M-WA D	Empty	M-Inc 11	Trauma
14 EMS 4	EMS 4	Invest	Cipher	Hosp 14	Empty	N-E Metro	N-BR	Empty	N-FDTA2	Annc TG
15 10-33	10-33	Admin	Admin	Hosp 15	Empty	O-P Metro	O-BR D	Empty	O-FDTA1	Empty
16 Tk Around	Tk Around	Staff	Dyn Rgp	Hosp 16	Empty	P-Arl T/A	P-Disp	Empty	4P-Disp	Empty

Fairfax County Fire-Rescue Talkgroup Plan (zone shown by row)

Zone	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Agency
0	0-1 DISP	0-2 MAIN	0-3 FG1	0-4 FG2	0-5 FG3	0-6 G1C	0-7 FG5	0-8 FG6	0-9 FG7	0-10 G2C	0-11 EMS1	0-12 EMS2	0-13 EMS3	0-14 EMS4	0-15 10-33	0-16 TAR	DC Fire
1	1-A-DISP	1-B-OPS	1-C-OPS	1-D-OPS	1-E-OPS	1-F-SPOPS	1-G-CALL	1-H-ADMIN	1-I-PRV	1-J-SPEVT	1-K-MMST	1L FDTA	1-M-FMET	1-N-ARLHS	1-O-NVCH	1-P-ALLPS	Arl Co
2	2-A DISP	2-B-OPS-2	2-C-OPS-3	2-D-OPS4	2-E-OPS-5	2-F-OPS-6	2-G-OPS-7	2-H-ALXHP	2-I-CMND9	2-J-CE 10	2-K-CE 11	2-L-W A 821	2-M-WA821D	2N BR	2O BR D	2P DISP	Alex
3	3-A F1 DSP	3-B-F2-DSP	3-C-TAC1	3-D-TAC2	3-E-TAC-3	3-F DYN											MWAA
4	4-A DISP	4-B-RESP	4-C-INC1	4-D-INC2	4-E-INC3	4-F-INC4	4-G-INC5	4-H-INC6	4-I-INC7	4-J-INC8	4-K-INC9	4-L-INC10	4-M-INC11	4-N-FDTA1	4-O-FDTA2	4-P-DISP	Fairfax
5																	Pr. Wm
6	6-A DISP	6-B RESP	6-C INC1	6-D INC2	6-E INC3	6-F INC4	6-G ANNC	6-H COMND	6-I SECT1	6-J SECT2	6-K SECT3	6-L SECT4	6-M LHC1	6-N LHC2	6-O J01	6-P DISP	Loudoun
7																	Mont Co
8																	
9	9-A TRMA	9-B FRFX	9-C MT V	9-D FOAKS	9-E RESTN	9-F SPFLD	9-G ACC-F	9-H ACC-R	9-I NVCOM	9-J ALEX	9-K ARL	9-L CHLDR	9-M MDSTR	9-N MIL	9-O PTMC	9-P PRWM	EMS
M	I / CMD	I /SUPP	I / EMS	I / STAGE	I / SCT 1	I / SCT 2	I / SCT 3	I / SCT 4	I / SCT 5	I / SCT 6	I / REHAB	I / HAZ	TRAUMA	I / FDTA1	I / FDTA 2	I /ANNC	Major Inc
A	COORD1	COORD 2	COORD 3	COORD 4	COORD 5	PSTA 1	PSTA 2										
B	COG 1	COG 2	COG 3	COG 4	COG 5	COG6	NCALL	NTAC1	NTAC2	NTAC3	NTAC4						COG
C	INSP	BAT 1	BAT 2	BAT 3	BAT 4	BAT 5	BAT 6	EVENT	SYS HQ	INVES	HAZ SVC	FDTA1	FDTA2	4-P DISP			F Prev
D	SYS HQ	SYS ANN	STAC 1	STAC 2	STAC 3	STAC 4	STAC 5	STAC 6	STAC 7	STAC 8	STAC 9	STAC 10	STAC 11	FDTA1	S FDTA2	4-P DISP	Systems
E	TRN 1	TRN2	TRN3	TRN 4	HAZ 1	HAZ 2	TROT 1	TROT2	VOL 1	VOL 2	FDTA1	FDTA2	4-A DISP				Tng/Sp
F	FIREDISP	FIRERSP	FAX ADM	FAX PREV1	FAX PREV2	FAX PD	FAX EVT	FAX TAC1	FAX TAC2	FAX TRN							Fx City
G	INVES	HAZ SVC	INV / PD													4-P DISP	

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